REMARKS/ARGUMENTS

Examiner Nguyen is thanked for the thorough examination of the subject Patent Application. The Claims have been carefully reviewed and amended, and are considered to be in condition for allowance.

Reconsideration of the rejection under 35 USC §103(a) of Claims 1-30 as being unpatentable over in U. S. Patent Application 2003/0007556 (Oura et al.) in view of U. S. Patent 6,240,210 (Koyama) is requested in light of the following arguments.

Claims 2, 3, 6, 7, 11, 12, 18, 19, 23, 24, 27, and 28 are cancelled. Their rejection is therefore moot.

Briefly, the applicant wishes to point out the major features of the invention, which is a novel wireless audio transmission and reception system that includes a first encoder to receive an analog signal, to digitize the analog signal, and to compress the digitized analog signal using MP-3 compression algorithm. The MP-3 compression algorithm provides a compression ratio of the digitized analog signal to the compressed digitized analog signal that is from approximately 8:1 to approximately 96:1 and is determined by a quality of audio reproduction of the analog signal

The transmission and reception system further includes a frame formatter in communication between the first encoder and the modulator to divide the

compressed digitized analog signal into frames. Each frame is composed of multiple packets, with synchronization patterns placed at a beginning of each packet. An end-of-frame pattern is placed at an end of each frame to demarcate the frame.

There may be insufficient transitions between voltage levels of the compressed digitized analog signal that contribute to errors in receiving the compressed digitized analog signal. To compensate for the insufficient transitions, transmission and reception system may have a bit-stuffing circuit. The bit-stuffing circuit in communication between the frame formatter and the modulator inserts bits into any frame having insufficient transitions. To have a proper number of transitions within a packet a 7 to 1 bit-stuffing ratio is employed.

For transmission of the compressed digitized analog signal, the compressed digitized analog signal is further encoded to a non-return-to-zero invert-on-zeros (NRZI) in a second encoder. The second encoder is optionally placed to in communication between the first encoder and the modulator to perform the NRZI encoding.

A modulator is in communication with the first encoder through the frame formatter and the bit-stuffing circuit to receive the compressed digitized analog signal and to modulate a carrier signal with the compressed digitized analog signal. The modulated carrier signal is transferred to a transmitter for wireless

transference. The carrier signal of this invention has a frequency that is greater than 900 MHz within the RF bands designated by the FCC for non-licensed communication.

A receiver acquires the modulated carrier signal and transfers it to a demodulator. The demodulator extracts the compressed digitized analog signal from the modulated carrier signal. The extracted compressed digitized analog signal is transferred to a first decoder in communication with the demodulator. The first decoder decompresses the compressed digitized analog signal using an MP-3 decompression algorithm and converts the digitized analog signal to a reproduction of the analog signal.

If the transmission and reception system employs an NRZI coding, the transmission and reception system further comprises a second decoder placed in communication between the demodulator and the first decoder. The second decoder restores the NRZI encoded, compressed digitized analog signal to remove the NRZI coding from the compressed digitized analog signal. The transmission and reception system has a bit-extractor circuit in communication between the second decoder and the first decoder. The bit-extractor placed in communication with the first decoder removes all bits inserted into the compressed digitized analog signal to restore original transitions of the compressed digitized analog signal. The transmission and reception system further incorporates a frame remover in communication between the demodulator and the first decoder. The frame remover removes synchronization patterns from

a beginning of each packet of the compressed digitized analog signals and end-of-frame patterns from the end of each frame of the compressed digitized analog signals.

Oura et al. provides a mobile terminal having an encoded data recording function. A picture frame is transmitted from the terminal of a communication partner side is decoded and displayed on a display section during communication by means of wireless TV phones using MPEG-4 compression (Page 2, Paragraph [0030]). Video data, speech data and computer data are transmitted in a packet. A flag, header, and control information are placed at the beginning of each packet (Page 2, Paragraph 30). The frames of the video data are initial frames of a video scene (I Frames) with subsequent frames being P-Frames containing mainly difference data between a current frame and the preceding frame are transmitted sequentially. The transmitted I-Frames and P-frames are received and added together sequentially to form the picture data that is to be reproduced by means of a decoding processing. Each of the series of picture data is reproduced and displayed sequentially on the LCD (Page 4, Paragraph [0060].

Koyama describes a decompression system that decodes the initial compressed image and stores the initial compressed image for use as a reference image for another frame. The subsequent compressed images require the image information about the past and future frames (this image corresponds

to a P picture and a B picture in the MPEG). The reference image and the subsequent compressed images are then summed to generate the video image.

Neither Oura et al, Koyama, nor the combination of Oura et al in view of Koyama provide:

a first encoder to receive an analog signal, to digitize said analog signal, and to compress the digitized analog signal using MP-3 compression; (Claim 1, Lines 3-5; Claim 10, Lines 2-4)

a frame formatter in communication with the first encoder to divide the compressed digitized analog signal into packets, placing synchronization patterns at a beginning of each packet, assembling a number of packets into a frame; and placing an end-of-frame pattern at an end of said frame; (Claim 1, Lines 6-10; Claim 10, Lines 5-10)

a bit-stuffing circuit in communication with the frame formatter to insert bits into any frame having insufficient transitions, whereby said insufficient transitions cause errors in receiving the compressed digitized analog signal; (Claim 1, Lines 11-14; Claim 10, Lines 11-14)

a demodulator in communication with said bit stuffing circuit to synchronize and extract the compressed digitized analog signal

from a carrier signal modulated with said compressed digitized analog signal; (Claim 1, Lines 21-25; Claim 16, Lines 7-10)

a frame remover in communication with the demodulator to remove synchronization patterns from a beginning of each packet of the compressed digitized analog signals and end-of-frame patterns from an end of each frame of packets of the compressed digitized analog signals; (Claim 1, Lines 26-30; Claim 16, Lines 11-15) and

a bit-extractor circuit in communication with said frame remover to remove bits inserted into the compressed digitized analog signal to restore original transitions of the compressed digitized analog signal (Claim 1, Lines 31-34; Claim 16, Lines 16-19).

compressing the digitized analog signal according to an MP-3 encoding algorithm; (Claim 22, Lines 5-6)

forming frames of the compressed digitized analog signal by the steps of:

assembling a plurality of bytes of the compressed digitized analog signal to create packets,

placing a synchronization pattern at a beginning of each packet,

assembling a plurality of said packets to form frames, and

placing an end-of-frame pattern at an end of each frame; (Claim 22, Lines 7-14)

inserting additional bits within any frame having insufficient transitions, whereby said insufficient transitions cause errors in receiving the compressed digitized analog signal; (Claim 22, Lines 15-17)

demodulating a carrier signal modulated with said compressed digitized analog signal to extracted the compressed digitized analog signal; (Claim 22, Lines 22-24)

removing frames from the compressed digitized analog signal by:

removing synchronization patterns from a beginning of each packet, and

removing an end-of-frame pattern from each from an end of each frame; (Claim 22, Lines 25-29) and

extracting bits inserted to the compressed digitized analog signal to restore original transitions of the compressed digitized analog signal; (Claim 22, Lines 30-32)

decompressing the compressed digitized analog signal according to an MP-3 decoding algorithm; (Claim 37, Lines 2-3)

Neither Oura et al, Koyama, nor the combination of Oura et al in view of Koyama provide for compressing digitized analog signals using the MPEG-1, Layer 3 formatting. Further, Neither Oura et al, Koyama, nor the combination of Oura et al in view of Koyama describe the forming of frames of the analog signals having the synchronization patterns and the end of frame patterns. The frames of Oura et al. and Koyama are individual video picture frames that are compressed according to the MPEG-4 standard with the I-Frame and P-Frame. The frames of this invention provide the necessary synchronization patterns for having a receiver clock synchronize with a transmitter clock to recover the compressed digitized analog signals. The end of frame signals provide the demarcation between each of the frames to insure that the compressed digitized analog signals are recovered.

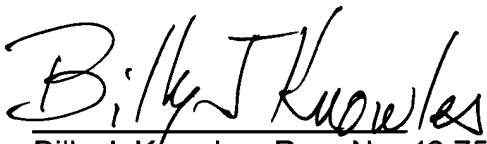
Further, again, Neither Oura et al, Koyama, nor the combination of Oura et al in view of Koyama provide a bit stuffing technique for insuring that there are sufficient transitions in the signal to prevent loss of compressed digitized analog signals.

Claims 31-37 are new claims to claim the modulator, transmitter, and first decoder of the wireless audio transmission and reception system, the wireless audio transmitter system, the wireless audio receiver system of this invention.

Applicant respectfully requests that a timely Notice of Allowance for all claims be issued in this case.

It is requested that should Examiner Nguyen not find that the Claims are now allowable, that the undersigned be called at (845) 452-5863 to overcome any problems preventing allowance.

Respectfully Submitted,
George O. Saile & Associates



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